

What is claimed is:

1. A printer, comprising:

a controller for interpreting a print command received, performing print preparation by a unit of a page, and giving instructions for printing; and

an engine for executing printing according to the print command, wherein said controller:

calculates, when print preparation for a first page is completed, an estimated completion time of print preparation for a second page;

judges whether the estimated completion time of print preparation is later than a prescribed time limit, which is based on the difference between the time required for printing 2 pages by 1 page unit printing and the time required for printing 2 pages by 2 page unit printing; and

gives to the engine an instruction for 1 page unit printing for the first page if the controller judges that the estimated completion time of print preparation is later than the prescribed time limit, but; on the other hand, if the controller judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for the second page was completed by a first time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page unit printing for the first page and the second page, but if it judges that the print preparation for the second page was

not completed, it gives to the engine an instruction for 1 page unit printing for the first page.

2. The printer according to claim 1, wherein, the first time is the prescribed time limit.

3. The printer according to claim 1, wherein, the first time is the estimated completion time of print preparation.

4. The printer according to any one of claims 1 to 3, wherein, the estimated completion time of print preparation is calculated based on an elapsed interpretation time which is obtained by deducting the time when the interpretation of the first page was started from the time when the interpretation of the first page was finished.

5. The printer according to claim 4, wherein, the estimated completion time of print preparation is obtained by adding the elapsed interpretation time to the time when the interpretation of the first page was finished.

6. The printer according to claim 4, wherein, the estimated completion time of print preparation is obtained by adding the elapsed interpretation time to the time when the print preparation for the certain page was completed.

7. A method executed by a control program of a printer which interprets a print command received, performs print preparation by a unit of a page, and executes printing, comprising:

a step of calculating, when print preparation for a first page is completed, an estimated completion time of print preparation for a second page;

a step of judging whether the estimated completion time of print preparation is later than a prescribed time limit, which is based on the difference between the time required for printing 2 pages by 1 page unit printing and the time required for printing 2 pages by 2 page unit printing; and

a step of giving to the engine an instruction for 1 page unit printing for the first page if the controller judges that the estimated completion time of print preparation is later than the prescribed time limit, but; on the other hand, if the controller judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for the second page was completed by a first time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page unit printing for the first page and the second page, but if it judges that the print preparation for the second page was not completed, it gives to the engine an instruction for 1 page unit printing for the first page.

8. The printer control program according to claim 7, wherein

the first time is the prescribed time limit.

9. The printer control program according to claim 7, wherein the first time is the estimated completion time of print preparation.

10. The printer control program according to any one of claims 7 to 9, wherein, the estimated completion time of print preparation is calculated based on an elapsed interpretation time which is obtained by deducting the time when the interpretation of the first page was started from the time when the interpretation of the first page was finished.

11. A printer, comprising:

a controller for interpreting a print command received, performing print preparation by a unit of a page, and giving instructions for printing; and

an engine for executing printing according to the print command, wherein said controller:

calculates, when print preparation for a first page is completed, an estimated completion time of print preparation for a second page;

judges whether the estimated completion time of print preparation is later than a prescribed time limit, which is based on the difference between the time required for printing 2 pages by 1 page unit printing and the time required for printing

2 pages by 2 page unit printing; and

if the controller judges that the estimated completion time of print preparation is later than the prescribed time limit, it further judges whether the print preparation for the second page was completed by a first time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page unit printing for the first page and the second page, but if it judges that the print preparation for the second page was not completed, it gives to the engine an instruction for 1 page unit printing for the first page, but; on the other hand, if the controller judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for the second page was completed by a second time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page unit printing for the first page and the second page, but if it judges that the print preparation for the second page was not completed, it gives to the engine an instruction for 1 page unit printing for the first page.

12. The printer according to claim 11, wherein the first time is the prescribed time limit and the second time is the estimated completion time of print preparation for the second page.

13. A method executed by a control program of the printer

which interprets a print command received, performs print preparation by a unit of a page, and executes printing, comprising:

a step of calculating, when print preparation for a first page is completed, an estimated completion time of print preparation for a second page;

a step of judging whether the estimated completion time of print preparation is later than a prescribed time limit, which is based on a difference between the time required for printing 2 pages by 1 page unit printing and the time required for printing 2 pages by 2 page unit printing; and

a step, wherein if the controller judges that the estimated completion time of print preparation is later than the prescribed time limit, it further judges whether the print preparation for the second page was completed by a first time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page unit printing for the first page and the second page, but if it judges that the print preparation for the second page was not completed, it gives to the engine an instruction for 1 page unit printing for the first page, but; on the other hand, if the controller judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for the second page was completed by a second time, and if it judges that the print preparation for the second page was completed, it gives to the engine an instruction for 2 page

unit printing for the first page and the second page, but if it judges that the print preparation for the second page was not completed, it gives to the engine an instruction for 1 page unit printing for the first page.

14. The printer control program according to claim 13, wherein the first time is the prescribed time limit and the second time is the estimated completion time of print preparation for the second page.

15. A printer, comprising:

a controller for interpreting a print command received, performing print preparation by a unit of page, and giving instructions for printing; and

an engine for executing printing according to the print command, wherein:

when print preparation for page m was completed in n page unit printing, the controller gives to the engine an instruction for m page unit printing for pages up to page m if the value of m is equal to the value of n;

when the value of m is smaller than the value of n, the controller calculates an estimated completion time of print preparation for page m+1;

the controller compares the estimated completion time of print preparation which was calculated with a prescribed time limit which is based on the difference between the time required

for printing m pages in m page unit printing as well as printing 1 page in 1 page unit printing for page m+1, and the time required for printing m+1 pages in m+1 page unit printing; and

if the controller judges that the estimated completion time of print preparation is later than the time limit, it gives to the engine an instruction for m page unit printing for page m; on the other hand, if the controller judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for page m+1 was completed by a first time, and if it judges that the print preparation for page m+1 was completed, it replaces the value m with the value of m+1 and executes the processing which is executed when the print preparation for page m was completed, and if the controller judges that the print preparation was not completed by the first time, it gives to the engine an instruction for the m page unit printing.

16. The printer according to claim 15, wherein the first time is the prescribed time limit.

17. The printer according to claim 15, wherein the first time is the estimated completion time of print preparation.

18. The printer according to any one of Claims 15 to 17, wherein the estimated completion time of print preparation is calculated based on a mean time of the elapsed interpretation



time, from its beginning to the end, of each page up to page m.

19. A method executed by a control program of a printer which interprets a print command received, performs print preparation by a unit of a page, and executes printing, comprising:

a first step, wherein, when the print preparation for page m is completed in n page unit printing, the value of m is compared with the value of n;

a second step, wherein, the controller gives to the engine an instruction for m page unit printing for pages up to page m if the value of m is equal to the value of n;

a third step, wherein, when the value of m is smaller than the value of n, the controller calculates an estimated completion time of print preparation for page m+1;

a forth step, wherein, the controller compares the estimated completion time of print preparation which was calculated with a prescribed time limit which is based on a difference between the time required for printing m pages in m page unit printing as well as printing 1 page in 1 page unit printing for page m+1, and the time required for printing m+1 pages in m+1 page unit printing; and

a fifth step, wherein, if the controller judges that the estimated completion time of print preparation is later than the time limit, it gives to the engine an instruction for m page unit printing for page m; on the other hand, if the controller

judges that the estimated completion time is earlier than the time limit, it further judges whether the print preparation for page  $m+1$  was completed by a first time, and if it judges that the print preparation for page  $m+1$  was completed, it replaces the value  $m$  with the value of  $m+1$  and executes the processing from the first step, and if the controller judges that the print preparation was not completed by the first time, it gives to the engine an instruction for the  $m$  page unit printing.